

List of All Chemicals

P Cymbopogon winterianus (Poaceae)

Common name(s)

Java Citronella; Mahapengiri

How used

GRAS

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Part <input type="button" value="All"/>	Low PPM	High PPM	StdDev	*Reference
EO	Plant	4000.0	7000.0	-0.21	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
GERANIOL	Plant	1064.0	3150.0	0.09	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (35)

Allergenic	
Anthelmintic	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
Antibacterial MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.
Antibacterial MIC=64 ug/ml	
Antibacterial MBC=800 ug/ml	
Anticancer (Pancreas) IC50=265 uM	
Anticariogenic MIC=400 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.
Antimelanomic IC50=150 uM/l	
Antisalmonella MIC=400 ug/ml	
Antiseptic 7 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Antiseptic MIC=64 ug/ml	
Antiseptic 400-800 ug/ml	
Antispasmodic	Buchbauer, G., Jirovetz*, L., Nikiforov, A., Remberg, G., Raverdino, V. 1989. Headspace-Analysis and Aroma Compounds of Austrian Hay-Blossoms (Flores Graminis, Graminis Flos) used in Aromatherapy. J. Ess. Oil Res., 2: 185-191, 1990.
Antitubercular MIC=64 ug/ml	
Antitumor	Yu, S.G., Anderson, P.J., and Elson, C.E. 1995. Efficacy of B-Ionone in the Chemoprevention of Rat Mammary Carcinogenesis. J. Agric. Food Chem. 43: 2144-2147.
Antitumor (Pancreas) IC50=265 uM	
Ascaricide	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
CNS-Stimulant	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Embryotoxic	
Emetic 3 x ipecac	Lawrence Review of Natural Products, Sep-97.
Expectorant	Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.
FLavor FEMA 1-10	Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry
Fungicide IC93=2 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Herbicide IC100-2,000 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectifuge 50 ppm	
Insectiphile	Merck 11th Edition
Mycobactericide MIC=64 ug/ml	
Nematicide IC86=100 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Nematicide MLC=1,000 ug/ml	Shoyakugaku Zasshi, 44: 183.
Perfumery	Merck 11th Edition
Pesticide	
Sedative	
Trichomonicide LD100=300 ug/ml	

CITRONELLAL Plant 1000.0 2289.0 1.05 *

Activities (20)					
Acaricide					
Allergenic					
Antibacterial					
Antiseptic 3.8 x phenol	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Antistaphylococcic					
Antistreptococcic					
Candidicide					
Embryotoxic					
FLavor FEMA <1	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide					
Insectifuge	Merck 11th Edition				
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances, Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC				
Mutagenic?					
Nematicide MIC 1 mg/ml	Shoyakugaku Zasshi, 44: 183.				
P450-2B1-Inhibitor IC50=1.56 uM					
Perfumery					
Pesticide					
Sedative ED=1 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Teratogenic					

CITRONELLOL Plant 440.0 770.0 1.13 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (15)					
Allergenic					
Antibacterial					
Antiseptic					
Antistaphylococcic					
Antistreptococcic					
Candidicide					
FLavor FEMA 1-50	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide	HerbalGram No. 17.				
Herbicide IC50=160 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.				
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Nematicide MLC=100 ug/ml	Shoyakugaku Zasshi, 44: 183.				
Perfumery	Merck 11th Edition				
Pesticide					
Sedative	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)				
Trichomonicide LD100=300 ug/ml					

GERANYL-ACETATE Plant 120.0 556.0 0.1 *

Activities (5)					
Allergenic					
FLavor FEMA 1-20	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Insectiphile	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Perfumery	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Sedative	Jim Duke's personal files.				

NEROL Plant 308.0 539.0 -0.09 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (10)					
Antibacterial	HerbalGram No. 17.				
Antihelicobacter					
Antiseptic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.				
Antiulcer					
Estrogenic					
FLavor FEMA 1-20	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Perfumery	Merck 11th Edition				
Pesticide					
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				
Trichomonicide ED100=300 ug/ml					

ELEMOL	Plant	40.0	420.0	2.43	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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Activities (2)					
Antiacetylcholinesterase IC50=34 ug/ml					
Antiulcer					

L-LIMONENE	Plant	80.0	350.0	-1.24	*
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Activities (2)					
Antiacetylcholinesterase IC25=1.2 mM					
Antiacetylcholinesterase IC27=164 ug/ml					

CITRONELLYL-ACETATE	Plant	80.0	280.0	1.41	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
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Activities (2)					
FLavor FEMA <1-700	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				

GERANYL-BUTYRATE	Plant	66.0	233.0	1.27	*
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Activities (3)					
FLavor FEMA 1-10	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Sedative	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.				

CITRONELLYL-CITRONELLATE	Plant	66.0	233.0		*
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EUGENOL	Plant	66.0	233.0	-0.49	*
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Activities (76)					
Acaricide LD50=5.47 ug/sq cm cf DEET at 37.59 ug/sq cm					
Allergenic					
Analgesic	Merck 11th Edition				
Anesthetic 200-400	Phytotherapy Research, 4: 93.				
AntiTNF					
Antiaggregant IC50=0.3 uM	Phytotherapy Research, 4: 93.				
Antiarachidonate					
Antibacterial 500 ppm	Valnet, J. 1982. The Practice of Aromatherapy. Translated from the 1980 French Edition by Robin Campbell and Libby Houston. Destiny Books, New York. 279 pp.				
Antibacterial MBC=400 ug/ml					
Anticonvulsant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antiedemic 100	Phytotherapy Research, 4: 95.				
Antiestrogenic					
Antifeedant	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.				
Antigenotoxic 50-500 mg/kg orl mus					
Antihyperic IC50=16.2-25.6 ug/ml					
Antiinflammatory (11 uM) IC~97=1,000 uM					

Antikeratotic IC50=16.2-25.6 ug/ml	
Antimitotic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antinitrosating	
Antioxidant IC65=30 ppm	
Antioxidant 10 uM	
Antiprostaglandin 11 uM	
Antiprostaglandin IC50=9.2 mM	
Antipyretic 3 ml/man/day	
Antiradicular EC50=2 ul/l	
Antisalmonella MIC=400 ug/ml	
Antiseptic 3 ml/man/day	
Antiseptic 400 ug/ml	
Antispasmodic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antistaphylococcic	Wright, C.W.(Ed)2002. <i>Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.</i> Maffei,M.(Ed)2002. <i>Vetiveria.The Genus Vetiveria.</i> Taylor&Francis.NY,NY.191pp.Southwell,J.,Lowe,R.(Eds)1999. <i>Tea Tree.The Genus Melaleuca.</i> Harwood Acad.Pub.Amsterdam,Netherlands.
Antithromboxane	Lawrence Review of Natural Products, Jul-87.
Antitumor	Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove (<i>Eugenia caryophyllata</i>) As Potential Anticarcinogenic Agents. <i>Journal of Natural Products</i> 55(7): 999-1003, 1992.
Antiulcer	
Antiviral IC50=16.2-25.6 ug/ml	
Apifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
CNS-Depressant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
COX-1-Inhibitor IC97=1,000 uM	
COX-2-Inhibitor IC>97=1,000 uM	
COX-2-Inhibitor IC50=129 uM	
Calcium-Antagonist IC50=224 uM	
Calcium-Antagonist IC50=200 uM gpg	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	<i>Phytotherapy Research</i> , 4: 93.
Carcinogenic?	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture.</i> Plenum Press, New York. 445 pp.
Carminative	Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. <i>J. Pharm. Pharmacol.</i> 46: 14-18, 1994.
Choleretic	
Cytochrome-P450-Inhibitor	Pizzorno, J. 1998. <i>Total Wellness.</i> Prima Health, a division of Prima.
Cytotoxic 25 ug/ml	<i>Phytotherapy Research</i> , 4: 93.
Dermatitigenic	
Enterorelaxant	<i>J. Aromatherapy</i> 4: 22.
FLavor FEMA 10-500	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Hepatoprotective 100 ppm	
Herbicide	
Insecticide	
Insectifuge	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	
Juvabional	Jacobson, M., <i>Glossary of Plant-Derived Insect Deterrents</i> , CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvicide	
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. <i>Bioactive Volatile Compounds from Plants.</i> ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Nematicide MLC=2,000 ug/ml	<i>Shoyakugaku Zasshi</i> , 44: 183.
Neurotoxic	R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That:The Essential Pharmacology of Herbs and Spices. <i>Tips</i> 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. <i>Anns. Intern. Med.</i> 117(2):165-6; Huxtable, R.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Pesticide	
Prostaglandin-Synthesis-Inhibitor 1 mM rbt	Chen, S. J., Wang, M. H., Chen, I. J. 1996. Antiplatelet and Calcium Inhibitory Properties of Eugenol and Sodium Eugenol Acetate. <i>Gen Pharmacol</i> , 27(4): 629-633.
Prostaglandin-Synthesis-Inhibitor IC50=9.2 uM	
Sedative	
Termiticide LD100=5 mg/g	
Trichomonicide LD100=300 ug/ml	
Trichomonistat IC50=10 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture.</i> Plenum Press, New York. 445 pp.

Trypsin-Enhancer	Lawrence Review of Natural Products, Dec-93.
Ulcerogenic	Phytotherapy Research, 4: 93.
Varroacide	
Vasodilator	
Vermifuge	

GERANYL-FORMATE Plant 100.0 175.0 -1.0 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (2)

FLavor FEMA 1-10 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
 Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

METHYL-ISOEUGENOL Plant 92.0 161.0 -1.0 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (15)

Anesthetic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiaggregant IC50=56 ug/mL Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. Phytotherapy Research 4(3): 93, 1990.

Antibacterial Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antihistaminic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antispasmodic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Candidicide Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. Phytotherapy Research 4(3): 93, 1990.

Expectorant Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

FLavor FEMA 5-100 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Herbicide Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Insect-attractant

Nematicide MLC=1 mg/ml Shoyakugaku Zasshi, 44: 183.

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

Toxic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

GAMMA-CADINENE Plant 40.0 158.0 1.82 Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

CARYOPHYLLENE Plant 84.0 147.0 -0.38 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (31)

Aldose-Reductase-Inhibitor	
Allergenic	
Analgesic	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Antiacne	
Antiasthmatic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antibacterial	
Anticariogenic MIC=>1,600 ug/ml	Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against Streptococcus mutans. J. Agric. Food Chem. 41: 1102-1105.
Antidermatitic	
Antiedemic	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990.
Antifeedant 500 ppm	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Antiinflammatory IC50=100 uM	Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' (Lavandula latifolia Vill.)2). Chem. Pharm. Bull. 38(8): 2283-2284, 1990.
Antileishmanic	
Antionychotic	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Antiproliferant	
Antispasmodic	
Antistaphylococcic	
Antistreptococcic	
Antitumor	Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove (Eugenia caryophyllata) As Potential Anticarcinogenic Agents. Journal of Natural Products 55(7): 999-1003, 1992.
Antiulcer	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Candidicide	
FLavor FEMA 20-200	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Gastroprotective	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Insectifuge	
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.
Larvicide	
Mosquitocide	
Perfumery	Merck 11th Edition
Pesticide	
Sedative	
Termitifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

LINALYL-ACETATE Plant 80.0 140.0 -0.51 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (7)

Anesthetic 0.01-1 ug/ml	
Antioxidant 400 ppm	
Antispasmodic ED50=0.21 mg/ml	Fitoterapia No.59-1984.
FLavor FEMA 2-15	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Perfumery	Merck 11th Edition
Sedative	

LINALOL Plant 40.0 105.0 -0.41 List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

CYMBOPOL Plant 60.0 105.0 Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

GAMMA-CADINOL Plant 60.0 105.0 Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

BETA-ELEMENE Plant 40.0 70.0 -0.22 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (5)

Anticancer (Cervix)	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.
Antigliomic	
Antiproliferant	
Antitumor (Cervix)	Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987.
Apoptotic	

METHYL-EUGENOL Plant 20.0 60.0 -0.61 Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (20)

Anesthetic

Antibacterial Internat. J. Oriental Med. 15(4): 199, 1990+

Anticonvulsant

Antidote (Strychnine)

Antifeedant Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Antioxidant EC50=100 u/l

Antiradicular EC50=100 u/l

Antiseptic

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Carcinogenic Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.

FLavor FEMA 5-15 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Fungicide

Fungistat 100 ug/ml Laekeman, G.M., Van Hoof, L., Haemers, A., Vanden Berghe, D.A., Herman, A.G., and Vlietinck, A.J. Eugenol a Valuable Compound for In Vitro Experimental Research and Worthwhile for Further In Vivo Investigation. Phytotherapy Research 4(3): 93, 1990.

Insectifuge Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.

Myorelaxant Fitoterapia No.61: 254, 1990.

Narcotic

Nematicide MIC=1 mg/ml Shoyakugaku Zasshi, 44: 183.

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

Sedative

FARNESOL Plant 24.0 42.0 -0.46 Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (17)

Allergenic

Antiadenomic

Anticancer (Pancreas) IC50=39 uM

Anticarcinomic (Colon)

Anticarcinomic (Lung)

Antileukemic

Antimelanomic IC50=50 uM/l

Antispasmodic

Apoptotic

FLavor FEMA 0.1-3 Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Juvabional Russell, G. B., Phytochemical resources for crop protection, N. Z. J. Technol., 2, 1986, 127-134.

Nematicide MLC=100 ug/ml Shoyakugaku Zasshi, 44: 183.

Perfumery Merck 11th Edition

Pesticide

Pheromonal

Sedative

Trichomonicide LD100=100 ug/ml

CITRAL Plant 8.0 14.0 -0.76 Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (53)

Allergenic	
Antiallergenic	
Antiallergic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antianaphylactic	
Antibacterial	
Anticancer	
Antihelicobacter	
Antiherpetic	
Antihistaminic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory	
Antileishmanic	
Antioxidant	
Antiseptic 5.2 x phenol	
Antishock	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antispasmodic	
Antitumor	
Antitumor (Colon)	
Antitumor (Liver)	
Antitumor (Skin)	
Antiulcer	
Antiviral	
Apoptotic	
Barbituate-Synergist	
Bronchorelaxant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Calcium-Antagonist	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic	
Caspase-3-Inducer	
Chemopreventive	
Cytotoxic	
Estrogenic	
Expectorant	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
FLavor FEMA 4-170	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide MIC 625 ug/ml	
Glaucomagenic	
Glutathionigenic	
Herbicide IC50=115 uM	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Myorelaxant 200 mg/kg	
NF-kB-Inhibitor	
NO-Inhibitor	
Nematicide IC52=100 ug/ml	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Nematicide MLC=100-260 ug/ml	Shoyakugaku Zasshi, 44: 183.
P450-2B1-Inhibitor IC50=1.19 uM	
Perfumery	Merck 11th Edition
Pesticide	
Prostatitigenic 185 mg/kg/day/3 ms	
Sedative ED 1-32 mg/kg	Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)
Sedative 1 mg/kg	
Teratogenic	
Trichomonicide LD100=150 ug/ml	
Trypanocide	
Tyrosinase-Inhibitor ID50=1.5 mM	
Tyrosinase-Inhibitor ID50=1,500 uM	

METHYL-HEPTENONE Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

HYDROXYCITRONELLIC-ACID Plant -- -- J.S. Glasby Dict.PIs Containing 2ndary Metabolite. 1991.

2-HEXEN-1-AL Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

DIPENTENE Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (7)				
Allergenic				
Antibacterial	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.			
Antiviral	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.			
Expectorant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Irritant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Pesticide				
Sedative	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			

DICITRONELLOXIDE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
CALAMENENE	Plant	--	--	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
DIACETYL	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (2)				
FLavor FEMA 3-50	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry			
Irritant	Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.			

CADINOL	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
VANILLIN	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (28)				
Allelochemic IC50=4.26 mM	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.			
Allergenic				
Antianemic				
Anticancer				
Antidrepanocytic				
Antiescherichic 10-100 mmol/l				
Antilactobacillic 10-100 mmol/l				
Antilisteria				
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.			
Antioxidant #NAME?				
Antipolio	Economic & Medicinal Plant Research, 5: 194.			
Antiradicular 7 x quercetin				
Antisickling				
Antitumor				
Antitumor-Promoter				
Antiviral	Economic & Medicinal Plant Research, 5: 194.			
Antiyeast 8-30 mM				
Bacteristat 10-40 mmol/l				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Candidicide 8-20 mM				
Choleretic	Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.			
FLavor FEMA 50-20,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry			
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Immunosuppressant				
Insectifuge?	Martindale's 28th			
Irritant				
Perfumery				
Pesticide				

D-1-METHYL-3-CYCLOHEXANONE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
BOURBONENE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
SESQUICITRONELLENE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
L-3-METHYL-1-PENTANOL	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

BISABOLENE	Plant	--	--	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
CUBEBENE	Plant	--	--	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
L-3-METHYL-1-PENTANAL	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
NERAL	Plant	--	--	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (4)

Antibacterial	Iwu, M.M. 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL 435 pp.
Antispasmodic	
Pesticide	
Termiticide LD100=5 mg/g	

ISOVALERALDEHYDE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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Activities (1)

FLavor FEMA 0.5-5	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
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BENZALDEHYDE	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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Activities (24)

Allergenic	
Anesthetic	
Antibacterial	
Anticancer	
Antimutagenic	
Antipeptic	
Antiseptic	
Antispasmodic	
Antitumor	
Candidicide	
FLavor FEMA 150-800	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Immunostimulant	
Insecticide	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Insectifuge 50 ppm	J. Stored. Prod. Res., 22:141, 1986.
Motor-Depressant	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Narcotic	Merck 11th Edition
Nematicide MLC=1 mg/ml	Shoyakugaku Zasshi, 44: 183.
Pesticide	
Sedative	Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC
Termiticide LD100=5 mg/g	
Tyrosinase-Inhibitor ID50=820 uM	
Tyrosinase-Inhibitor ID50=87 ug/ml	
Tyrosinase-Inhibitor ID50=0.82 mM	
Tyrosinase-Inhibitor ID50=830 uM	

FURFURAL	Plant	--	--	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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Activities (6)

Antiseptic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
FLavor FEMA 1-30	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Insecticide	
Irritant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Pesticide	

CITRONELLYL-BUTYRATE Plant -- -- Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (1)

FLavor FEMA <1-2 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

N-1-HEXANOL Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

ISOPULEGOL Plant -- -- List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities (3)

Antiacetylcholinesterase IC50=2.0 mM

FLavor FEMA 5-30 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

ALPHA-PINENE Plant -- -- Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (28)

Allelochemic

Allergenic

Antiacne

Antibacterial

Antifeedant

Antiflu Economic & Medicinal Plant Research, 5: 195.

Antiinflammatory 500 mg/kg

Antipneumonic

Antiseptic

Antispasmodic

Antistaphylococcic

Antiviral Economic & Medicinal Plant Research, 5: 195.

Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Coleoptophile

Expectorant Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.

FLavor FEMA 15-150 Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Herbicide IC50=30 uM Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Insecticide 0.82 uM/fly

Insectifuge 50 ppm

Insectiphile J. Stored. Prod. Res., 22:141, 1986.

Irritant Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

P450-2B1-Inhibitor IC50=0.087 uM

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide

Sedative Lawrence Review of Natural Products, Jun-90.

Spasmogenic

Tranquilizer Lawrence Review of Natural Products, Jun-90.

Transdermal

MYRCENE Plant -- -- Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities (22)

ACE-Inhibitor 100 ug/ml

Aldose-Reductase-Inhibitor 100 ug/ml Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.

Allergenic

Analgesic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.

Antibacterial

Anticonvulsant

Antimutagenic Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.

Antinittrosaminic

Antinociceptive 10-20 mg/kg ipr mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.

Antinociceptive 20-40 mg/kg scu mus Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.

Antioxidant Jim Duke's personal files.

Antispasmodic Jim Duke's personal files.

Chemopreventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

FLavor FEMA 0.5-9 Aloe Research Council - Duke writeup of non-peer reviewed book by Coats and draft by Henry

Fungicide Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.

Hypothermic

Insectifuge

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Myorelaxant 100-200 mg/kg

P450-2B1-Inhibitor IC50=0.14 uM

Perfumery Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Pesticide

ISOBUTYL-ALCOHOL Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (2)

Irritant

Narcotic

ALPHA-CELANENE Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

ISOAMYL-ALCOHOL Plant -- -- Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities (3)

Emetic Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Irritant Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

Perfume Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253.

2-HEXEN-1-OL Plant -- -- Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.

Activities (2)

Antiseptic

Pesticide